

MAPPING PATHWAYS

Synthesising the empirical evidence to map pathways for HIV prevention planning

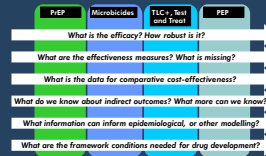
BACKGROUND

New trial data has begun to provide empirical support for innovation in the use of antiretroviral (ARV) drugs for HIV prevention. However, there has been little synthesis of the full breadth of individual, clinical, social, political, and economic impacts of ARV-based prevention strategies, and the evidence for them.

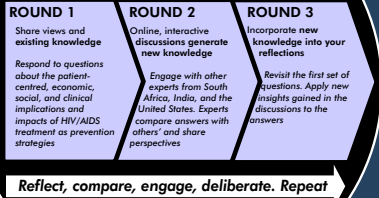
METHODS

The Mapping Pathways study has developed and synthesised the evidence base for ARV-based prevention, and the implications for India, South Africa, and the United States. A structured literature review mapped and analysed published empirical data on four ARV-based prevention strategies: testing, linkage to care plus (TLC+), pre-exposure prophylaxis (PrEP), microbicides, and post-exposure prophylaxis (PEP).

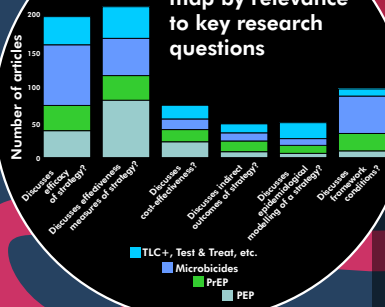
A Delphi-based 'ExpertLens' identified fault-lines in the evidence for implementation of the strategies as perceived by HIV/AIDS experts. ExpertLens harnesses the wisdom of groups and can bring geographically dispersed participants together.



ExpertLens methodology



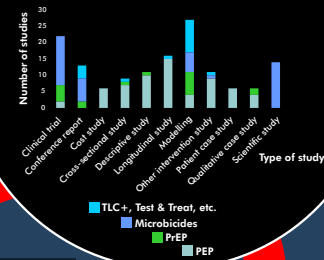
1. Empirical evidence base map by relevance to key research questions



RESULTS

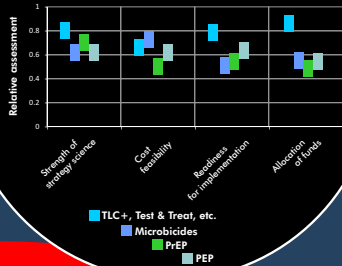
The literature review retrieved 5,811 articles from a keyword search and 302 abstracts were mapped for their methodology and relevance to efficacy, cost-effectiveness, indirect outcomes, and epidemiological impacts (Figures 1 and 2). One-hundred articles were fully analysed. There is a relatively sparse evidence base for the efficacy of ARV-based prevention. Modelling and cost-effectiveness studies revealed optimism for effectiveness of TLC+ and PrEP strategies, although caveats about adherence, risk compensation, and drug resistance exist. Overall we observe gaps in the evidence base in the following areas: examination of indirect outcomes of ARV-based prevention strategies; clinical trial data for microbicides and 'treatment as prevention' strategies; and divergent, context-dependent evidence about the epidemiological implications of different strategies.

2. Empirical evidence base for ARV-based prevention strategies



"Let us not pitch one prevention option against another - people have unique situations at different points of their lives and are likely to make different choices. Some migration might happen but overall most people will have more options to choose from" (ExpertLens participant)

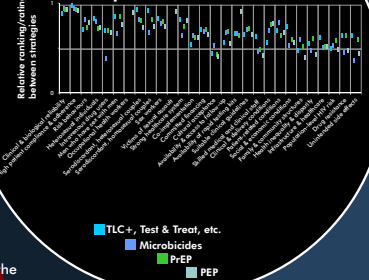
3. ExpertLens comparative assessment of biomedical prevention strategies



The views of thirty-two experts, including clinicians, health providers, policy-makers, advocates, and researchers were solicited on factors which would influence the effectiveness of different strategies, such as socio-economic or clinical delivery contexts. Levels of agreement were highly varied and distributed amongst the strategies and the different conditions for implementation (Figure 3).

When asked about the comparative strengths of the strategies, experts generally thought TLC+ had the strongest scientific evidence, was ready for implementation, and most deserving of funds. While agreement between experts varied on these comparative strengths, consensus only emerged for the TLC+ strategy in three areas: strength of the science, readiness for implementation, and allocation of funds. There was disagreement on the cost feasibility issue, with no consensus emerging for any strategy.

4. ExpertLens comparative assessment of factors affecting implementation



Qualitative analysis of the ExpertLens discussions revealed faultlines on the viability of 'treatment as prevention' strategies and risk disinhibition in relation to TLC+ (Figure 4). The chart shows the relative distribution of the mean rating of each implementation issue as they varied between strategies. Where the markers overlap, this indicates similar mean rankings between strategies, and where they are spread apart, the mean ranking was different. The analysis reveals that questions were raised about implementation issues, such as who would monitor patient compliance and drug resistance, while consensus emerged around the importance of socioeconomic conditions being favourable to implementation of the strategies; the importance of community and political buy-in; expanded testing alongside treatment; and the need for the strategies to be implemented alongside other prevention strategies.

"It is important to keep attention on treatment which requires political and financial resources" (ExpertLens participant)

CONCLUSIONS

There is little published, systematic analysis of the full evidence base for ARV-based prevention to utilize for policy development. Existing data is inconsistent with regard to efficacy and effectiveness, varies by country, and expert perspectives are divergent and dynamic. Critical gaps exist in the evidence base and the need for policy-relevant and robust evidence remains.